REMARKS

In view of both the amendments presented above and the following discussion, the Applicants submit that none of the claims now pending in the application is anticipated under the provisions of 35 USC § 102. Furthermore, the Applicants also submit that all of these claims now satisfy the requirements of 35 USC § 112. Thus, the Applicants believe that all of these claims are now in allowable form.

If, however, the Examiner believes that there are any unresolved issues requiring adverse action in any of the claims now pending in the application, the Examiner should telephone Mr. Peter L. Michaelson, Esq. at (732) 542-7800 so that appropriate arrangements can be made for resolving such issues as expeditiously as possible.

Status of claims

To simplify the Examiner's understanding of the claims and expedite their prosecution, the Applicants, rather than re-writing their claims to include numerous changes, have canceled their prior claims 6-9 and substituted new claims 10-13 there for. Claims 10, 11, 12 and 13 correspond, on a 1:1 basis, to prior claims 6, 7, 8 and 9, respectively.

New independent claim 10 more precisely recites the invention than did prior independent claim 6.

Rejections

A. Rejection under 35 USC § 112

The Examiner rejected prior claim 9 as non-enabled under the provisions of the first paragraph of 35 USC § 112. Inasmuch as claim 9 has now been cancelled, this rejection is moot. Nevertheless, since new independent claim 10 has replaced prior claim 9, then, to expedite prosecution, this rejection will be addressed in the context of the new claim. In that context, this rejection is respectfully traversed.

Specifically, the Examiner, with respect to prior claim 9, stated that the limitation "said one personal service agent communicates, apart from with the associated one of the personal assistants, with the coordinating sub-system but not with any personal service agent associated with any user other than said one user in order to accomplish said sub-task for said one user" is a negative limitation, i.e., having an exclusionary proviso, that does not have a sufficient basis in the specification.

New independent claim 10 is fully supported in the specification.

Claim 10, to the extent relevant to this rejection, recites a personal agent system in which intra-system communication, i.e., between separate sub-systems, flows in a specific hierarchical fashion to protect against inadvertent exchange of confidential user information.

The claimed system contains a personal assistant sub-system, a personal service agent sub-system and a coordinating sub-system. Within the personal assistant sub-system, each user has a personal assistant; within the personal service agent sub-system, that user has one or more personal service agents. The personal assistant has the responsibility of performing a specific task for that user. Each such personal service agent can be invoked by the assistant to perform a specific sub-task for that same user. The user has exclusive use of his(her) personal assistant and the associated personal service agents; that personal assistant and the associated personal service agents are not shared among multiple users.

Each user only communicates with his(her) personal assistant. That personal assistant communicates with its corresponding user or the associated personal service agents for that one user. Each of these particular service agents communicates, in turn, with a coordinating processor located within the coordinating sub-system. The coordinating processor can transfer information among and, through doing so, coordinate the actions of personal service agents for a number of different users where interaction is needed among the personal service agents for different users to accomplish a desired task. This interaction, in the context of scheduling a meeting among several participants (here being users), can illustratively involve a personal service agent of each affected user checking the schedule of that user to determine whether that user is available or not at a given date and time and to communicate a result to the coordinating processor.

This is clearly described in, e.g., paragraphs 12,
21, 27 of the specification, as follows, with emphasis
added:

"[12]   In this way, the inventive system provides
for a regular and efficient architecture offering a
much better controllability of the agents. *Each user
only communicates directly with his/her personal
assistant, which subsequently passes on orders from the
user to the relevant personal service agent and vice
versa. In addition, problems regarding unreliable
third parties are avoided since the personal assistant
and the personal service agents of a user exclusively
operate for their own user. Since interaction with
agents of third parties does not take place directly,
but by way of a neutral processor, it is avoided that
confidential information is inadvertently exchanged.*

[21]   *For a user, his own personal assistant is the
only means by which he may utilize the system 1. The
personal assistants are therefore arranged to
communicate with their own respective users, e.g., to
receive orders or to pass on information obtained to
the users. In addition, the personal assistant is
arranged for communication with personal service agents
to be discussed below, e.g., for passing on orders to,
or receiving results from, the personal service agents.*

[27]   *Because in the system according to the
invention, the personal assistants and the personal
service agents are capable only of communicating with
predetermined parties according to fixed rules,
therewith determining a social hierarchy, the
reliability of the system is guaranteed.* Because the
hierarchy also prevents unnecessary communication, the
burden on the system is reduced. Therewith, a personal
agent system is obtained which is reliable, purposeful
and efficient to users."

Further, to reduce a potential for inadvertent
exchange of confidential user information, the system also
utilizes a central control unit to exchange user information
and which, unless any user has given his(her) permission for
such an exchange, restricts communication between the

personal assistant, the personal service agents and the coordination processor for that user to just occur in the hierarchical fashion and no other. As a result, the personal assistant and all the personal service agents associated with that user will not directly communicate with the personal assistant or the personal service agent(s) associated with any other user, thus preventing any inadvertent exchange of confidential user information from that user to another or between separate sub-systems respectively associated with that user and another.

This aspect is clearly described in, e.g., paragraphs 32 and 41 of the specification, as follows, with emphasis added:

> "[32]   In operation, a first user makes contact, by way of a personal computer 60, with the receptor section 2 of the system 1. The receptor section 2 provides a communication channel to the central control unit 6 which, based on the identity of the first user, locates its associated personal assistant 11, and sets up a connection. *In this example, the central control unit 6 is implemented with an address book with location data of all parts of the system 1. The various parts of the system are capable of obtaining, at the central control unit 6, the data required for making contact with another part. Based on the data present within the central control unit 6, it may decide whether or not to provide information to a part in question; as a result, the central control unit 6 protects the hierarchy within system 1. Therewith, it is also achieved that confidential data is not supplied to unreliable parties.*
>
> [41]   In a further modification of the embodiment, it is possible that the self-learning modules of personal assistants within an agent environment exchange learning information in order thus to learn from other personal assistants. This may take place, e.g., by having the programs which constitute the assistants communicate among themselves. *For this purpose, the user must expressly give his permission to*

*his personal assistant in advance, and in this
connection indicate that the assistant is permitted to
gain contact with personal assistants of third parties
and indicate which personal information the assistant
may liberate to third parties. Furthermore, it is
possible to indicate with which personal assistants the
personal assistant of the user is permitted to
communicate. Through this selective communication,
confidential information of the user is prevented from
being inadvertently passed on, as a result of which the
trust of the user in the agent will increase.* In this
connection, the data traffic between the personal
assistants is limited to the required amount, so that
the system is not unnecessarily burdened. Such an
exchange of learning information is also possible
within an environment of service agents in the way
described above.

Accordingly, the Applicants submit that claim 10,
as it is currently phrased, is fully supported by the
specification, as filed. Hence, this claim satisfies the
requirements of the first paragraph of 35 USC § 112 and is
thus patentable there under.

Hence, this rejection should now be withdrawn.

B. Rejection under 35 USC § 102

The Examiner has rejected prior claims 6-9 under
the provisions of 35 USC § 102(b), as being anticipated by
the teachings of the '731 Koreeda patent (United States
patent 5,781,731 issued to H. Koreeda et al on July 14,
1998). Inasmuch as all these claims have now been canceled,
this rejection is moot. However, since these claims have
been replaced by new claims 10-13, then, to expedite
prosecution, this rejection will be discussed in the context
of these new claims, and principally with respect to new
independent claim 10 -- which is the sole independent claim

now pending. In that context, this rejection is also respectfully traversed.

Specifically, the Examiner contends that the limitations in claim 9 are identically disclosed by the teachings of the '731 Koreeda patent. In that regard, the Examiner views organization agent, as described in col. 8, lines 35-60 of this patent, as implementing the hierarchical communication set forth by the Applicants in the last paragraph of prior claim 9, namely:

> "wherein, in order to restrict flow of user information within the personal agent system, said one user only communicates with said one of the personal assistants, said one personal assistant communicates, apart from with said one user, only with said one personal service agent associated with said one user and within each of said service agent sub-systems in order to accomplish one of said tasks, and said one personal service agent communicates, apart from with the associated one of the personal assistants, with the coordinating sub-system but not with any personal service agent associated with any user other than said one user in order to accomplish said sub-task for said one user".

As the Examiner will soon appreciate and contrary to his view regarding claim 9, claim 10 is clearly not anticipated by the teachings of the '731 Koreeda et al patent.

To facilitate understanding of and sharply distinguish the claimed features of the present invention, as recited in claim 10, from the teachings of the applied patent, the Applicants will proceed as follows. They will first discuss their present inventive system -- as they have in their prior amendment mailed December 10, 2007. Then, they will discuss the pertinent teachings of the '731 Koreeda patent. Finally, they will discuss the principal

features of their invention, as recited in claim 10, which distinguish the invention from those teachings.

To begin, the present inventive agent system, as also discussed in the preceding section above of this amendment, is formed of three basic sub-systems: a personal assistant sub-system, a personal service agent sub-system, and a coordinating sub-system. The personal assistant sub-system communicates with both the users and with collectively all the personal service agent sub-systems; all the personal service agent sub-systems communicate with collectively the personal assistant sub-systems and also with the coordinating sub-system. See, e.g., paragraphs 11, 12 and 19-26 of the present specification.

Within the personal assistant sub-system, a personal assistant is associated with each different user. A 1:1 correspondence exists between each user and his(her) personal assistant; each user only communicates with his(her) personal assistant and no other such assistant. Each assistant only serves its associated user, and no other. Each personal assistant interacts with those personal service agents solely associated with that particular assistant, and with no other personal service agents. The user does not directly communicate with any of his(her) personal service agents.

For any one user, the personal service agents associated with that user perform specific specialized sub-tasks only for and communicate with that user's particular personal assistant. To accomplish any such task for any one user, the personal assistant associated with that user does not communicate with the personal assistant

associated with any other user. Similarly, to accomplish any sub-task for a given user, the personal service agent associated with that sub-task and that user does not communicate with any of the personal service agents associated with any other user. Each personal assistant and personal service agent only operate for its associated user, i.e., on a 1:1 basis, and for no other; though multiple personal service agents may operate, to accomplish multiple sub-tasks, for any one personal assistant and there through ultimately for its one associated user.

Each personal service agent in the agent system also communicates, aside from with its associated personal assistant, with a coordination processor (also referred in the specification as a "processor part") within a coordinating (processing) sub-system. Personal service agents do not directly communicate with each other. They communicate with and their actions are coordinated by the coordination processor.

This hierarchical scheme of inter-sub-system communication is implemented by central control unit 6. This unit, as shown in FIG. 1 and described in, e.g., paragraph 32, has an internal address book that specifies the address of each component in the overall system. Based on those addresses, unit 6 controls communication between the various sub-systems such that this communication will strictly occur according to the hierarchy. By so doing, this unit prevents inadvertent exchange of confidential user information that might otherwise arise between various system components associated with different users.

As illustratively shown in FIG. 1 of the present application, the inventive agent system may illustratively contain four different personal assistants 11-14, each solely associated with a different corresponding user. Each user can access his(her) corresponding assistant through PC 60 (or any of PCs 60' used in a networked environment shown in FIG. 2). Each of these personal assistants interacts with one or two associated personal service agents within environments 30 and 40 (each environment being a separate personal service agent sub-system). In particular, personal assistants 11 and 12 interact with personal service agents 31 and 21, and 22 and 32, respectively; personal assistant 13 interacts just with personal service agent 23 in environment 20, and personal assistant 14 interacts just with personal service agent 34 in environment 30. Each of personal service agents 20, illustratively agents 21-23, may be a personal secretary agent which provides a secretarial function for its associated user; while each of agents 30, such as agents 31-32 and 34, may be a traveling agent which makes travel arrangements for its associated user. Each personal assistant passes on orders from its associated individual user, but no one else, to its associated personal service agent(s) based on the needs of that user and instructs that personal service agent to undertake a corresponding sub-task, i.e., perform a given secretarial task, or arrange a meeting with another user. Because each personal assistant and each personal service agent, by virtue of the fixed and strict social hierarchy there between -- as enforced by central control unit 6, do not handle tasks for multiple users, confidential information for one user is not likely to be exchanged with any other user, thus restricting user information flow within the entire personal agent system. Inasmuch as traditional agent

systems do not utilize such restricted communication, the
Applicants' inventive system, by doing so, significantly
heightens user security over that provided by any such
traditional system.

Each personal assistant and its associated
personal service agent(s) do not communicate with any other
such assistant or agent, but rather do so through neutral
sub-system 40. This sub-system includes processing part
(coordination processor) 41 which coordinates the actions of
all the personal service agents, for tasks that ultimately
involve multiple users, and exchanges user information
between those agents to the extent necessary. Specifically,
coordination processor 41 is the only element that receives
and processes the confidential information provided by
multiple personal service agents for different users to
handle an overall task, which here is to, e.g., establish an
appointment involving multiple users.

Now, notwithstanding the strict hierarchical
communication set forth above, the present invention also
contemplates situations, as described in paragraph 41 of the
specification, where a personal assistant for one user may
directly communicate with its counterpart(s) associated with
another user(s). However, in such instances, each of the
users involved must expressly provide his(her) permission
for such communication before any such communication will
occur. This permission would entail specifying which
assistants can be contacted and what personal user
information can be exchanged therethrough. By virtue of
doing so, each such user is provided with an ample
opportunity to limit any ensuing exchange of any of his(her)

confidential user information to any other user or a
sub-system associated there with.

By virtue of limiting communication within the
system, i.e., in instances where prior user permission has
not been not granted, to occur solely in accordance with the
strict hierarchy, the present invention provides
significantly enhanced security over confidential user
information, thus permitting users to place increased trust
in the overall agent system. Moreover, this trust is
further enhanced by virtue of the inventive system, before
exchanging any such information, securing appropriate
permission from each of the affected users as to whether
his(her) confidential user information can be exchanged at
all, to what extent and with what other personal assistants
(i.e., for what other users).

In contrast, the '731 Koreeda patent does <u>not</u>
teach limiting communication in an agent-based system along
a fixed, controlled hierarchical manner as the Applicants
teach and now claim but rather explicitly teaches and
exploits use of unrestricted inter-agent communication.
Thus, that patent teaches directly <u>away</u> from the present
invention.

In particular, the '731 Koreeda patent addresses a
computerized agent-based system for scheduling conferences
among various users. As discussed in col. 4, line 14 et seq
and col. 8, line 1 et seq -- the latter with reference to
FIG. 3 of that patent, the system envisions a plurality of
personal agents 800_a, 800_b, 800_c, ... Each of the these
agents contains a user interface agent (e.g., user interface
agent 820_a for personal agent 800_a), a conference sponsor

agent (e.g., conference sponsor agent 830_a for agent 800_a),
a schedule management agent (e.g., schedule management
agent 840_a for agent 800_a) and an appointment agent (e.g.,
appointment agent 850_a for agent 800_a).

In operation and as depicted in FIG. 3 and
expressly described in col. 8, line 22 et seq, each of the
schedule management agents 840_a, 840_b,... receives a
conference scheduling notice message from each of the
conference sponsor agents 830_a, 830_b, ... , an appointment
request message from each of the appointment agents 850_a,
850_b, ... , and schedule information concerning days off,
utilization of flex-time, personal affairs and the like, the
schedule information being input by each of the users 810_a,
810_b, ... by itself through each of the user interface
agents 820_a, 820_b, ...

As expressly shown by the inter-agent
communication depicted in FIG. 3, <u>agents associated with
different users can and do directly communicate with each
other</u>. For example, a conference sponsor agent (830_b) and
an appointment agent (850_b) for one personal agent (800_b)
can communicate directly with a schedule management agent
(840_a) of another personal agent (800_a), and vice versa for
the former agent where its schedule agent (840_b) can
communicate with the conference sponsor agent (830_a) and the
appointment agent (850_a) of the latter agent. What this
means is simple. There is <u>no apparent restraint</u> on
inter-agent communication and hence on the extent to which
confidential user information can be exchanged amongst
various agents. This is not surprising given that the '731
Koreeda et al patent is totally oblivious to the fact that
certain user information, e.g., schedule information, which

its agents might access is confidential to a given user, and
to maintain its confidentiality should not be exchanged with
agents for other users without express permission of its
owner. Given that the patent is completely indifferent to
this problem, it should come as no surprise that the patent
poses no solution to this problem.

The problem of controlling the flow of
unrestrained user information in a multi-agent system, as
inherent in the art here typified by the teachings of the
'731 Koreeda et al patent, is the exact problem which the
Applicants recognize and advantageously solve. As discussed
above, the Applicants' inventive solution is to employ a
fixed social hierarchy for communication flow in a
multi-agent system, with communication between different
users occurring through a coordination processor, in order
to accomplish user tasks and sub-tasks, with, in the absence
of express user permission, no such flow of information or
its exchange occurring between the agents, specifically the
personal assistants, for different users.

By virtue of expressly allowing inter-agent
communication, the '731 Koreeda patent teaches directly **away**
from the present invention -- so much so that, when one of
ordinary skill in the art were to be faced with the problem
addressed by the Applicants, that person would simply not be
motivated in a direction that would contemplate the
invention. There are simply **no** suggestions, whether express
or implied, in that patent which would lead such a person
towards the present invention.

The Examiner specifically cited to col. 8,
lines 35-60 of this patent and which describes an

organization agent. Contrary to the Examiner's apparent
view, this agent does not serve to limit communication in a
hierarchical fashion within the system shown in FIG. 3
itself. Rather, this agent represents the hierarchy of an
organization which the system is to serve. As indicated in
FIG. 3 and discussed in this passage, the hierarchy has, at
its center, section agent 900, and, at increasingly higher
hierarchical levels, department agent 890, division agent
880 and company agent 870. Agent 860 interacts with
schedule management agent 840 (840_a for agent 800_a; 840_b for
agent 800_b and so forth). The purpose of agent 860 is
simply to settle schedule requests of different users based
on pre-defined date availability (or unavailability) of
personnel situated at different hierarchical levels of their
organization, as reflected in section-, department-,
division- and company-wide calendars. Agent 860 has no
bearing whatsoever on regulating the communication between
the agents within any of the individual user agents 800 in
any manner, let alone hierarchical as the present Applicants
now teach. In essence, agent 860 deals with the hierarchy
of an organization, not of communication within the agent
system itself. In fact, no component of the system shown in
FIG. 3 acts to enforce any such communication hierarchy.
Consequently, the agent system taught by the Koreeda '371
patent exhibits the very problem addressed and
advantageously remedied by the present Applicants.

The Applicants' personal agent system with its
restricted hierarchical communication flow -- which is
simply not taught by the '731 Koreeda patent -- is now
clearly and precisely recited, along with other
distinguishing features, in new independent claim 10. In

particular, this claim recites as follows, with those
recitations being shown in a bolded typeface:

"A hierarchically-structured personal agent system
within a computer system, the personal agent system
comprising:
a personal assistant sub-system having a plurality
of personal assistants, each one of said personal
assistants being arranged to perform a task for only
one different user in a plurality of users;
a service agent sub-system comprising a plurality
of personal service agents, **each one of the personal
service agents being arranged for carrying out a
specific sub-task for an associated one of the personal
assistants and for only an associated one of the users
who is served by the associated one personal assistant;
and**
**a separate coordinating sub-system, apart from the
personal assistant sub-system and the service agent
sub-system, comprising a coordination processor for
coordinating actions of ones of the personal service
agents for different ones of the users;** and
**wherein, to accomplish the task, said associated
one user only communicates with the associated one
personal assistant, said associated one personal
assistant communicates with the associated one user and
each of at least one of the personal service agents
which serve the associated one personal assistant, and
said each of the at least one of the personal service
agents communicates with the associated one personal
assistant and the coordinating sub-system, and the
coordinating sub-system communicates with as many of
the personal service agents in the agent system as are
then necessary to accomplish the task, thereby
collectively defining a communication hierarchy;** and
the system further comprising:
**a central control unit, having addresses of
all of the personal assistants, the personal service
agents and the coordination processor in the agent
system, for restricting communication among the
associated one personal assistant, each of the at least
one of the personal service agents and the coordination
processor to occur according to the hierarchy such
that, while the task is being performed by the agent
system for the associated one user, confidential
information of the associated one user is not provided,**

without permission of the associated one user, by said one associated personal assistant to any other one of the personal assistants in the agent system and associated with any other one of the users." [emphasis supplied]

With the above in mind, the '731 Koreeda et al patent does not teach, show or suggest, whether explicitly or let alone implicitly, the basic claimed features of:

(a) hierarchical communication flow for each user between a personal assistant sub-system, a personal service agent sub-system and a coordinating sub-system, all within the same agent system and as defined in the claim; and

(b) use of a central control unit, also within the same agent system, which, in the absence of user approval for information exchange directly between a personal assistant associated with that user and that of any other user, restricts communication within the system itself to strictly follow the hierarchy in order to limit inadvertent exchange of confidential user information.

Inasmuch as all these principal distinguishing recitations are not disclosed, let alone identically, by the teachings of the '731 Koreeda et al patent, then this claim is not anticipated by those teachings. Hence, this claim is patentable there over under the provisions of 35 USC § 102.

Each of dependent claims 11-13 directly depends from claim 10 and recites further distinguishing aspects of the present invention. Consequently, each of these dependent claims is also patentable, under the provisions of 35 USC § 102, over the teachings of the '731 Koreeda et al patent for the same exact reasons set forth above with respect to claim 10.

Accordingly, this rejection should also now be withdrawn.
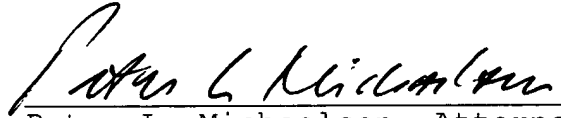
Conclusion

Thus, the Applicants submit that none of the claims, presently in the application, is anticipated under the provisions of 35 USC § 102. Furthermore, the Applicants also submit that all of these claims now fully satisfy the requirements of 35 USC § 112.

Consequently, the Applicants believe that all these claims are presently in condition for allowance. Accordingly, both reconsideration of this application and its swift passage to issue are earnestly solicited.

Respectfully submitted,

July 7, 2008

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CERTIFICATE OF MAILING under 37 C.F.R. 1.8(a)

I hereby certify that this correspondence is being deposited on **July 7, 2008** with the United States Postal Service as first class mail, with sufficient postage, in an envelope addressed to the Mail Stop RCE, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

signature	30,090
Signature	Reg. No.

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